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# TECHNICAL AND FINANCIAL ASSISTANCE IN THE FIELD OF STATISTICAL TRAINING, BILATERAL AND OTHER MULTILATERAL AGENCIES AND INSTITUTION

## SIDA Technical Assistance Programme: Institutional Co-operation and Statistical Training - July 1983 - June 1985

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# SIDA Technical Assistance Programme:

# Institutional co-operation and statistical training

# July 1983-June 1985

## I. INTRODUCTION

1. The present report [1/] outlines the statistical training provided by Statistics Sweden to Tanzania and Zimbabwe during July 1983 - June 1985 under the SIDA technical assistance programmes for these countries. Some more modest activities are not included, such as e.g. the two-months' training in statistics and economics provided in the autumn of 1984 in Sweden to three employees of the Prices and Income Commission in Zambia under the joint GRZ/SIDA Agricultural Sector Support Programme (ASSP). Nor are activities that are mainly non-statistical in character included, e.g. the installation of a new Tanzania Treasury computer and related training of staff. The report has been divided into four sections:

- . The concept of institutional co-operation
- . Training activities in Tanzania
- . Training activities in Zimbabwe
- . Some prospects.

## II. THE CONCEPT OF INSTITUTIONAL CO-OPERATION

2. Generally speaking, developing countries need at least as much statistical information as do developed countries. The ambitious development policies formulated by many nations of the Third World, as well as national strategies on production, distribution, pricing, education, health etc. can be followed up and, if necessary, adjusted, only if relevant information is available.

3. In many countries there is a large discrepancy between the need (and expressed demand) for statistics on one hand, and available data on the other. This gap should be narrowed through efforts from both sides, viz. Through formulation of more realistic demands on one side, and through identification of data possible to produce on the other. This calls for extensive co-operation between users and producers of statistics, as well as for sustained training activities to build up the statistical capability. Technical support from industrial countries is one way to facilitate such a development.

4. The Statistics Sweden model for institutional co-operation is based on the following principles:

- . The technical assistance is primarily channelled into long-term coherent projects with emphasis on developing the overall infrastructure.
- . Before the start of a project, an extensive fact-finding study is made, which forms the basis for a long-term plan for co-operation.

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1/ Paper prepared by the International Consulting Office of Statistics Sweden (b2 : cd-report)

. The project activities are carried out both in the client country and in Sweden.

. For each country project there is a project supervisor in Sweden and a co-ordinator of project activities in the client country. Both of these persons are engaged for long time-periods. The main part of the technical work on the other hand is carried out by experts commissioned for short periods of time.

. Within Statistics Sweden there are special capacities

(i) to plan and organize study programmes in Sweden, covering activities at both Statistics Sweden and other Swedish planning, educational and administrative institutions,

(ii) to evaluate, acquire and ship technical equipment needed for by-passing or eliminating bottle-necks.

. To extend its capacity, Statistics Sweden enters into long-term colaboration agreements with other authorities and university institutions both in Sweden and in the client's country.

## III. TRAINING ACTIVITIES IN TANZANIA

5. The institutional co-operation with Tanzania started early in 1983. The overall programme focuses on a step-by-step development of the statistical infrastructure and on improving the production processes of the Central Bureau of Statistics (TAKWIMU) in Dar-es-Salaam. Special projects are carried out in the following fields:

. Up-grading of the staff through development and implementation of tailor-made training programmes for statisticians and statistical officers,

. Development of a permanent sample for various survey activities,

. Design of efficient computer support to the statistical production process, including micro-computers as well as large-scale installations,

. Improving the presentation and use of statistical data

(a) One-year course for Regional Statistical Officers

6. In order to compile statistics useful for national and regional planning in Tanzania, a large proportion of the required data has to be collected from rural areas. For this purpose a network of 20 regional offices was established a few years ago. These offices were primarily manned by local staff, previously serving as temporary enumerators or supervisors. Due to insufficient training these staff faced a number of difficulties in their work to collect basic data from markets, establishments and households, and the level of non-response in industrial and employment surveys was extremely high. At the same time the requests from the planners within each region expanded as well as the requests from the head-office in Dar-es-Salaam. This put the regional statistical officers in a dilemma, being on one hand unable to fulfil the demands from the head-office in terms of basic data, and on the other being unable to supply the users in the region with required statistical information.

7. In order to improve this situation, a special programme was developed by the Central Bureau of Statistics (CBS) in Tanzania and Statistics Sweden. The central part of this programme is a coherent one-year training course with a pronouncedly practical slant for 15 Regional Statistical Officers. The course is divided into three stages. The first one covers about 10 weeks of full-time training in Dar-es-Salaam. This includes training in basic mathematics and statistics as well as a review of the statistical system and the production of data in Tanzania. Its purpose is to serve as a platform for the rest of the course. The second stage, about five months, is given in Sweden. It includes formal and applied training in statistics, cartography and economics of the university level. About two months are spent at various departments in Statistics Sweden and at some other data producers and users in Sweden. During this time the officers work practically with data collection, analysis and presentation. As one component a small scale sample survey is carried out. The third stage of the course is given in Tanzania. It is dominated by a full-scale sample survey exercise, covering all steps from the first definition of the problem, to the final presentation and dissemination of the survey results. In the 1983/84 course this part covered a study of energy use and afforestation in the Tabora region. In the 1984/85 course this part was a study of primary schools in the Tanga region (buildings, equipment, teachers, enrolment and attendance).

(b) Training programme for programmers

8. The purpose of the programme was to train a group of computer programmers at TAKWIMU, to be able to take care of data processing work for regular statistical products as well as for special surveys and censuses. All members of the group were to be able to develop data processing systems for the TAKWIMU needs, including structuring of data flows, systems design, programming in COBOL, development of data entry activities, and preparation of user outputs and tabulations by special programmes as well as by use of the COCENTS package programs. The members were also to be acquainted with the different computer installations available for TAKWIMU. This meant that special emphasis was paid to the use of ICL-instalations.

9. The training programme (June 1984 - April 1985) which covered eight programmers was divided into three stages:

(i) Computers and Basic COBOL. The initial part of the training included a course in Computer and basic COBOL Programming given ty ICL in Nairobi during seven weeks in June-July 1984.

(ii) Basic training in computer programming and systems design during seven weeks in August-September 1984 in Dar-es-Salaam. The stage covered

- problem solving and training of COBOL syntax
- statistical systems design and programming techniques
- ICL system software
- introduction to programming of key-edit systems.

(iii) Practical work in Dar-es-Salaam This stage was divided into two blocks with a break of some two months in the middle. The training was organised around one major case study, i.e. the processing of the Household Budget Survey (HBS) from Zanzibar. The following components were included

. Studies of HBS-questionnaires and tabulation plan
. Designing of the processing system for the HBS
. Writing and testing of key-edit programs for the HBS-data

This took some 6 weeks of full-time work and constituted the first block of Stage 3. During the interval the HBS data were key-edited in accordance with the design arrived at by the students.

10. The second block started early in 1985, and included the following components.

. Writing and testing COBOL validation programs
. Writing and testing COBOL tabulation programs
. General introduction to COCENTS
. Writing and testing COCENTS-programs for the Zanzibar HBS.

This block required about 8 weeks of full-time training.

(c) Training in micro-computer usage

11. As part of improving the data processing situation at the TAKWIMU, some micro-computers (Apple II C) have been acquired and a training programme drawn up. The programme started with a one-month basic training course for eight programmers (of which one from the Ministry of Development and Planning) in April-May 1983. It was followed up by a second one-month course in November-December for the same participants, concentrating on tailor-made programming for regular statistical products and on testing a new statistical package, STATUS, developed by a Swedish University.

12. In February 1985, eight officers of the TAKWIMU attended a third one-month training session. They were introduced to micro-computers, especially the Apple computer, the CP/M operating system and to the maintenance of the computers. Different applications of Supercalc, Statpack and d/BASE were discussed. The session concentrated on systems that were considered to be close to the daily working duties. One group dealt with the Central Register of Establishments and made a program covering all functions of this kind of register. Another group designed a system for the survey of parastatals conducted each year.

(e) Training in lay-out and printing

13. In January-February 1984 four TAKWIMU officials were trained during two weeks on the technical side of drafting diagrams and in lay-out techniques generally, as well as in the use of various tools and equipment.

14. In March 1985, a new off-set press was installed at the TAKWIMU. In connection with the installation the printing office staff received three weeks' training, and a little later one employee was sent to Sweden to study various printing techniques as well as service and maintenance. A plan for recurrent consultations and training sessions during the coming two years has been drafted.

(f) Workshop on statistics and economic planning

15. A workshop on statistics and economic planning was held in Arusha 20-22 August, 1984, organized jointly by the TAKWIMU and the East African Statistical Training Centre in collaboration with Statistics Sweden. The participants, apart from the TAKWIMU came from e.g. the Ministry of Planning and Economic Affairs and the Ministry of Finance. The objective was to deliberate on ways to improve and strengthen the statistical services in Tanzania so as to provide a firm foundation for national economic planning. After discussion, an action plan was drawn up, centering on the points.

. improving the planning system
. improving the statistical data base
. improving the performance and co-ordination of the statistical system.

(g) Study tours

16. During the two years covered by the report, a large number of individual study tours have also been carried out, mainly by TAKWIMU employees in responsible positions. The study tours can be roughly divided into two categories. The first covers tours mainly designed to provide insights and impulses in organization and management questions as well as in general staff training and statistical policy matters. Such tours have been made to neighbouring African countries and to Sweden. The other category of tours are mainly intended to permit a transfer of skills or knowledge within a specific field such as e.g. national accounts, computer processing or statistical analysis. Such tours have mostly been hosted by Statistics Sweden, but also included the participation of various other Swedish government and research organizations.

## IV. TRAINING ACTIVITIES IN ZIMBABWE

17. The institutional co-operation with Zimbabwe started late in 1983. It is based on the findings of a project identification mission carried out by Statistics Sweden earlier that year.

18. The overall programme focuses on the development of capabilities for production of improved statistical data in Zimbabwe. The data are to cover the activities of the modern sector as well as those of the communal areas. The co-operation also includes activities to improve the dissemination of statistical data and economic planning at the central level. Special projects are:

. Development and implementation of tailor-made training programmes for planners and computer staff,

. Development of the NHSCP

. Design of efficient computer support to the statistical production process, including micro-computers as well as large-scale installation,

. Development of a socio-economic data base for Zimbabwe.

(a) Development of a capability for integrated economic planning

19. At independence in 1980 Zimbabwe by and large lacked adequate information for policy planning. The first policy document stating the general goal of "Growth with Equity" contained very little data about two-thirds of the population living in Communal Areas. At the same time the stated policy of the new government stressed the need for extensive development efforts within this domain. Even if the relative lack of data was less acute for the modern sector, the government lacked a consistent system for description and analysis of industry, mining, commercial farming, transportation, external trade, etc.

20. One part of the co-operation programme between Zimbabwe and Statistics Sweden concerns the strengthening of the data base and the central planning machinery. For this purpose a number of special projects have been initiated.

21. One of these is the launching of a three-month training programme in econometrics and applied economic planning, covering groups of about ten officials from the central government in Zimbabwe. After about three weeks of formal education in basic statistics and econometrics in Harare, they go on to a 10-weeks' training session in Sweden. In addition to lectures in econometric analysis, there are a number of extensive case studies relating to the Zimbabwean economy. The practical part of the course is based on intensive computer support for identification, estimation and econometric analysis. About three weeks are devoted to study-tours to various institutions in Sweden, including on-the-job training at Statistics Sweden. Apart from the specialized training effects expected to result from this course, it is also hoped to obtain the first few building-blocks for a macro-economic model of the Zimbabwean economy. Additional resources will be assigned to the integration of these sectors into an interdependent model system for planning purposes.

22. The first of these courses took place in the second part of 1984, and during the first part of 1985 it was followed-up by a number of seminars covering various topics of economic analysis. The second one started in August 1985.

(b) Training in computer usage

23. In March 1984, two programmers at the Scientific Computing Centre participated in a course in RGSP (the statistical package so far used at CSO).

24. At the end of November 1984, 16 JET micro-computers acquired for processing data under the National Household Survey Capability Programme were installed at the CSO. In February 1985 courses in the use of the micros were arranged in Harare with the assistance of the representative of the vendor.

(c) Training of field staff in crop-cutting techniques

25. In preparation for the agricultural survey which is a key module of the NHSCP, field staff in April, 1984, received a 3-day training in crop-cutting techniques. The course covered random selection of households and sub-sampling of plots, field training in crop-cutting (maize), and distribution of forms and equipment needed for the yield estimation in the different provinces.

(d) Training in analytical presentation of statistics

26. Part of the co-operation between the CSO and Statistics Sweden has aimed at a strengthening of CSO's capacity in analytical presentation of statistics and in producing user-adapted publications. In particular the work has focused on:

(i) editing and printing of the planned statistical year-book

(ii) development of a newsletter

(iii) drafting of publications for the NHSCP.

27. As part of this work a series of informal, introductory seminars on dissemination of statistical information was held in November 1984 for participants from the different sections of the CSO.

(e) Study tours

28. As in the case of the co-operation with Tanzania, a large number of individual study tours have also been carried out, mainly by CSO employees in responsible positions. The tours have been carried out roughly for the same reasons and arranged in the same way, but, of course, adapted to the conditions and needs of CSO.

V. SOME PROSPECTS

29. SIDA has undertaken to continue to finance the statistical co-operation projects between Tanzania and Zimbabwe on one hand and Statistics Sweden on the other for another two years (July 1985 - June 1987). As far as can be foreseen, focus will continue to be on the training element, but of course in partly new fields. The methods of training will continue to range from tailor-made courses, seminars and workshops to on-the-job training by long-term or short-term consultants working together with counterparts.

30. In Tanzania, the following training items have been planned for the coming two-year period:

. Co-operation with the Department of Statistics as the University of Dar-es-Salaam to improve the academic syllabus in respect to survey statistics and applied statistics,

. continued integrated training of both mainframe programmers (to enable them to use the new ICL Treasury computer), micro-computer programmers and users

- improvement in statistical analysis and in presentation and dissemination of statistical results,
- continued upgrading of printing-office staff,
- training in relation to the planned agricultural and demographic/nutrition surveys to be based on the National Master Sample,
- workshops on regional planning and statistics to further collaboration between the Prime Minister's Office and the TAKWIMU on data collection and dissemination.

31. In Zimbabwe, the preliminary plans cover the following kinds of training:

- continued computer training at various levels, including training in data-base development and handling,
- continued training of NHSCP field staff,
- continued training in economic analysis and econometric modelling,
- courses on managerial skills and project development for senior officials,
- efforts to interlink national planning needs and statistical production to achieve a more user-oriented statistical production,
- training to improve statistical publications and their dissemination (coverage, analysis, timeliness, publication series, technical design etc.), e.g. in relation to the Population Census and the NHSCP.

32. SIDA has also undertaken to finance a three-year co-operation project concerning support to the development of the staistical infrastructure in Lesotho (July 1985 - June 1988). The plans tentatively formulated by the Bureau of Statistics in Lesotho and Statistics Sweden emphasise tailor-made training and upgrading of staff. Training given in Tanzania and Zimbabwe will to some extent be utilized for training of BOS staff as well. The most important fields are:

- NHSCP
- economic statistics (national accounts, foreign trade and labour force)
- presentation and dissemination of statistics
- introduction of micro-computers